REMARKS

Reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1, 2, 5-8, 12, 17-18 and 22-23 are pending in the instant application. Claims 10 and 21 have been cancelled without prejudice or disclaimer.

Claims 22-23 have been added to provide Applicant with scope of protection to which he is believed entitled. It has been found by the inventor of the present invention that the reflectance of the Ag-Al alloy (5% of silver) observed at the mean wavelength, 550 nm, of the visible range of the spectrum is 95 (before annealing) and 98.2 (after annealing). *See* attached TABLE A which is derived from Exhibit A being filed in the Response dated July 31, 2003.

Claims 1, 6 and 17 have been amended to more particularly define the claimed invention. Specifically, claims 1 and 17 have been amended to emphasize the feature that the Ag-Al alloy layer is sandwiched between two layers of molybdenum. Support for this amendment is founded in the specification, e.g., page 6, lines 22-30 and page 6, lines 19-24. Claim 6 has been amended to additionally include the feature that the Ag-Al alloy contains about 10 at% of silver and the reflective electrodes have a visible light reflectance greater than 95%. This feature was previously found in claims 10 and 21, now cancelled. Claim 12 has been amended to include the feature that the Ag-Al alloy is annealed at temperatures from about 200 °C to about 250 °C (previously found in claim 6) such that the reflective electrode have a visible light reflectance greater than 97%.

Thus, no new matter has been introduced through the foregoing amendments.

Entry of this Amendment under Rule 116 is merited as it raises no new issues and requires no further search. For example, amended claim 6 (10 at% of silver) and new claim 22 (5 at% of silver) include the subject matter of claim 10 (about 5 to about 10 at% of silver), which has been

considered by the Examiner. Amended claim 12 now includes a limitation (which has been annealed at temperatures from about 200 °C to about 250 °C) removed from claim 6. The scope of claim 12 has not changed. Thus, the claim amendments do not raise new issues or require further search. MPEP 2164.04.

Claims 12 and 21 stand rejected under *35 U.S.C. 112, first paragraph* for failing to comply with the enablement requirement.

[T]he examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993). A specification disclosure which contains a teaching of the manner and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of *35 U.S.C. 112, first paragraph*, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support.

Applicants understand that the Examiner is relying on *Iwasaki* for a reason to doubt the objective truth of the statements contained in the specification with respect to the manner and process of making and using the invention of claims 12 and 21. In particular, the Examiner alleged that, in view of FIG. 5 of *Iwasaki*, it is not clear from the instant disclosure how a visible light reflectance greater than 95% can be obtained with an Ag-Al alloy contains about 10 at% of silver (previously recited in claims 10 and 21, now canceled, and now recited in amended claim 6), and a visible light reflectance greater than 97% can be obtained with an annealed Ag-Al alloy contains about 10 at% of silver (always recited in amended claim 12).

However, the teachings of Iwasaki are deemed insufficient to establish a reasonable basis to question the enablement provided for the claimed invention, because the silver content is not the

only factor that affects the reflectance of an alloy. As described in the specification, the paragraph bridging pages 6-7, the manner in which the alloy is prepared also affects the reflectance. *See* page 7, lines 1 and 5-6 of the specification. The Examiner's attention is also directed to attached Exhibit B and TABLE B, a finding by the inventor of the present invention, where it is shown that the reflectance of the Ag-Al alloy (10% of silver) observed at the mean wavelength, 550 nm, of the visible range of the spectrum is 95.6 (before annealing) and 97.8 (after annealing). Since the specification contains a teaching of the manner and process of making and using the claimed invention (i.e., annealing at temperatures from about 200°C to about 250 °C), it must be taken as being in compliance with the enablement requirement of *35 U.S.C. 112, first paragraph*, in the absence of a prior art teaching that the manner in which the alloy is prepared, e.g., annealing temperature, does not affect the reflectance.

Withdrawal of the *35 U.S.C. 112, first paragraph* rejection in view of the above is believed appropriate and therefore courteously solicited.

The Examiner rejects claims 1, 2, 5, 17 and 18 as being unpatentable over *Kaneko et al.* (US 6433842 B1) in view of *Jeong et al.* (US 6486514) further in view of *Yoshida et al.* (US 6,313,520). Applicant respectfully traverses these rejections, even assuming arguendo that the references could be properly combined, because the combined device would still fail to teach or disclose all limitations of independent claims 1 and 17, i.e.,

(i) the conductive pattern layer (hereinafter referred to as "S/D metal film") that comprises an Ag-Al alloy layer sandwiched between two **layers of molybdenum** (claim 1); and

(ii) the gate line that comprises an Ag-Al alloy layer and a **layer of molybdenum** on the Ag-Al alloy layer (claim 17).

Note that "layer of molybdenum" means a layer made of substantially pure molybdenum (with little impurities, often less than 0.05%).

A prior art reference must be considered in its entirety, i.e., as a whole, including portions

that could lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). *MPEP* section 2141.02.

Kaneko et al. (US 6433842) teach an S/D metal film of Mo-Zr/Al-Nd/Mo-Zr. While the *Kaneko* reference is being considered as a whole, the reference specifies that it is desirable to add zirconium (Zr), hafnium (Hf), titanium (Ti), tantalum (Ts), or the like to molybdenum (Mo) forming an alloy to reduce the etching rate to a level of preferably twice as high as the etching rate of aluminum. *See* column 7, lines 62-67; and column 8, lines 1-4. Thus, a person of ordinary skill in the art, upon learning of the *Kaneko* teachings, would have been motivated to use molybdenum alloy instead of substantially pure molybdenum, as presently claimed. Accordingly, assuming arguendo that the teachings of *Kaneko*, *Jeong* and *Yoshida* were properly combined, the resulting device would have an S/D metal film of Mo alloy/Al alloy/Mo alloy instead of Mo/Al alloy/Mo (as presently recited in amended independent claim 1), or a gate line of Mo alloy/Al alloy instead of Mo/Al alloy (as presently recited in amended independent claim 17). The applied art of record therefore fails to disclose, teach or suggest all limitations of independent claims 1 and 17.

Withdrawal of the Examiner's *35 U.S.C. 103(a)* rejections of independent claims 1 and 17 is therefore believed appropriate and courteously solicited. Claims 2, 5 and 18 depend either from claim 1 or claim 17, and are considered patentable at least for the reasons advanced with respect to amended claim 1 and 17.

The Examiner rejects claims 6-8 as being unpatentable over *Park et al.* (US 6466280) in view of *Iwasaki et al.* (5986204). Applicant respectfully traverses these rejections because, even assuming arguendo that the references could be properly combined, the combined device would still fail to teach or disclose all limitations of amended claim 6, i.e., a liquid crystal display comprising reflective electrodes of Ag-Al alloy containing about 10 at% of silver wherein the reflective electrodes have a visible light reflectance greater than 95%.

Withdrawal of the Examiner's *35 U.S.C. 103(a)* rejections of independent claim 6 is therefore believed appropriate and courteously solicited. Claims 7-8 depend from claim 6, and are considered patentable at least for the reason advanced with respect to amended claim 6.

Each of the Examiner's rejections has been traversed. Accordingly, Applicant respectfully submits that all claims are now in condition for allowance. Early and favorable indication of allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under *37 C.F.R. 1.136* is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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TABLE A

Wavelength	Reflectance of $Al_{95}Ag_5$ before anneal	Reflectance of $Al_{95}Ag_5$ after anneal
300	79.5	95.8
350	86.6	96.4
400	90.8	97
450	93	97.4
500	94.4	97.7
550	**95**	**98.2**
600	95.8	98.5
650	96.4	98.7
700	97.3	99
750	98.8	99.5
800	100	100

Exhibit B

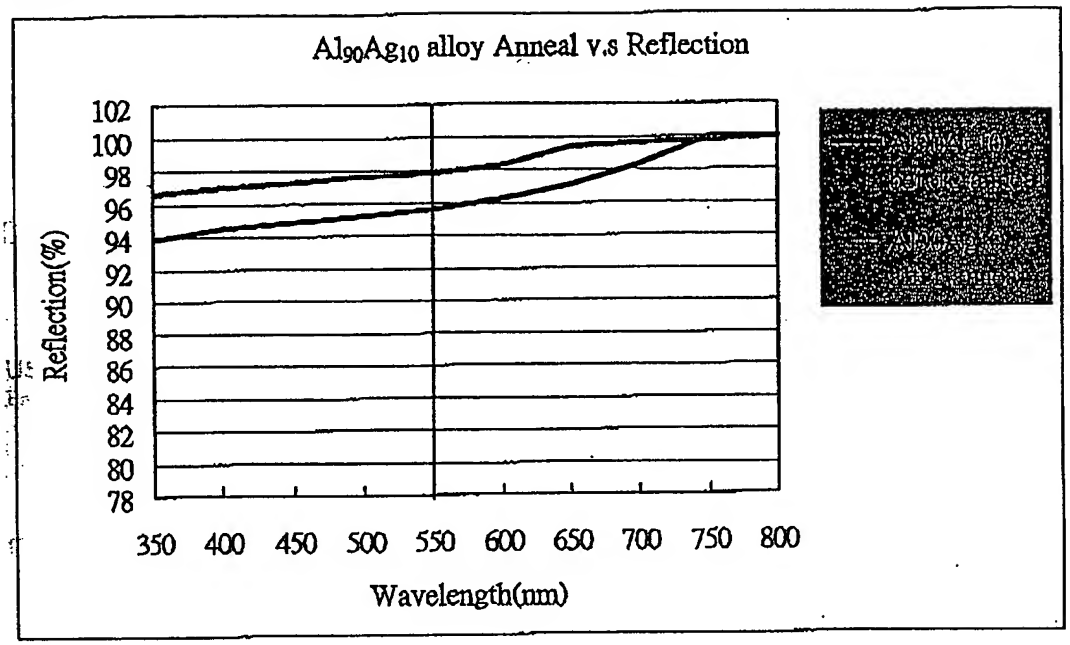

TABLE B

Wavelength	Reflectance of $Al_{90}Ag_{10}$ before anneal	Reflectance of $Al_{90}Ag_{10}$ after anneal
300	92.6	96
350	93.8	96.6
400	94.5	97
450	94.8	97.3
500	95.2	97.6
550	**95.6**	**97.8**
600	96.2	98.3
650	97.1	99.4
700	98.3	99.6
750	100	99.8
800	100	100